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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,847	03/12/2001	Sung-jin Kim	030681-288	7816

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EXAMINER

KLINGER, SCOTT M

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,847

Applicant(s)

KIM ET AL.

Examiner

Scott M. Klinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-24 are pending.

Response to Arguments

Applicant's arguments, with respect to the rejection(s) of claims 1-24 under 35 USC § 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Bell et al.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11, 21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Bell et al. (The Virtual Reality Modeling Language Specification Version 2.0 August 4, 1996, hereinafter "Bell"). Bell shows,

In referring to claims 1, 11, 21, and 23,

- Setting downstream/upstream channels between the server and the terminal as initialization:

"VRML document server: An application that locates and transmits VRML files and supporting files to VRML client applications (browsers)." (Bell, page 24); a system in which a server and a client/terminal communicate inherently implies downstream/upstream channels

- The terminal forming an upstream channel message if a user request of predetermined processing of a predetermined object is occurred in a scene transmitted from the server to

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the terminal through the downstream channel, and transmitting the message to the server through the upstream channel; the server receiving the upstream channel message, interpreting the message, processing the message as the user request of predetermined processing, and transmitting the result to the terminal:

"The target parameter can be used by the anchor node to send a request to load a URL into another frame ... An Anchor may be used to bind the viewer to a particular viewpoint in a virtual world by specifying a URL ending with "#viewpointName", where "viewpointName" is the DEF name of a viewpoint defined in the world. For example: ... specifies an anchor that puts the viewer in the "someScene" world bound to the viewpoint named "OverView" when the Box is chosen (note that "OverView" is the name of the viewpoint, not the value of the viewpoint's description field)." (Bell, page 152); when the client chooses the box described, a message is formed using the URL and sent to the server, the server responds by sending the resource at the URL destination to the client

- The terminal substituting the processing result of step (c) for the predetermined object in the scene transmitted in step (b), and providing it to the user:

Refreshing the display when the user receives the result of the user request is inherently implied in a system that displays said request upon receipt.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 6-10, 12, 13, 16-20, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell.

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In referring to claims 2 and 12, Bell shows substantial features of the claimed invention, including:

- Defining the corresponding node in the scene, in which the user request occurred, using information on objects forming the transmitted scene; determining the node identifier of the defined node, using information on the objects:

A system in which a user interacts with a node inherently implies identifying the node

- Defining a command to be executed in the server for the defined node, in response to the user request and forming an upstream channel message

Defining a command to be processed in the server, in response to the user request for the defined node is inherently implied in a system in which a user requests data and the server transmits said data

However, Bell does not show that the upstream channel message contains the node identifier. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell.

The VRML described in Bell allows for the downloading of additional VRML files when a user interacts with a node. A person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Bell so as to use the node identifier as part of the naming convention for files requested, in order to organize the server side data.

In referring to claims 3 and 13,

- The information on the objects contains node identifiers based on sequence information or locations of nodes corresponding to the objects in the scene generated based on a binary format:

Bell, Table 7-1 shows that the minimum VRML support includes binary files

In referring to claims 6, 7, 16, and 17,

- Receiving the upstream channel message, interpreting the node identifier in the upstream channel message, and defining a subject node to be processed, if a subject node to be

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processed is defined, confirming a node command in the upstream channel message, and processing the subject node according to the node command:

Confirming that a requested file exists is inherently implied in a system in which a client requests a file

In referring to claims 8 and 18,

- The node interpreter defines a subject node after confirming information on nodes directly dependent on the node indicated by the node identifier:

Confirming information on nodes directly dependent on the node indicated by the node identifier is inherently implied in a system that has a hierarchal node structure.

In referring to claims 9 and 19,

- The node interpreter defines all the nodes in the scene as subject nodes if the node identifier is a value for all the nodes in the scene as subjects:

Defining all the nodes in the scene as subject nodes if the node identifier is a value for all the nodes in the scene as subjects is inherently implied in a system that has a hierarchal node structure.

In referring to claims 10 and 20, although Bell shows substantial features of the claimed invention, Bell does not show the use of MPEG-4. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell.

Bell, Table 7-1 shows the minimum support for VRML includes MPEG-1 files. A person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Bell so as to support MPEG-4, in order to take advantage of newer codecs.

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In referring to claims 22 and 24,

- The upstream channel message is formed to have at least an inherent identifier, which can be confirmed in a server assigned for the predetermined element; a command corresponding to the user request of predetermined processing:

A command corresponding to the user request is inherently implied in a system in which a user requests data and the server transmits said data

Claims 4, 5, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell in view of Tenev et al. (U.S. Patent Number 6,654,761, hereinafter "Tenev").

In referring to claim 4, although Bell shows substantial features of the claimed invention, including the system of claim 2 (see 102 rejection above), Bell does not show determining whether or not the defined node is reusable in the scene. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell as evidenced by Tenev.

In analogous art, Tenev discloses controlling which part of data defining a node-link structure is in memory. Tenev shows determining whether or not the defined node is reusable in the scene: *"In modifying which part of node-link data is in memory, the iteration can determine whether to remove any of the node-link data from memory. Upon determining to do so, the iteration can apply a criterion to determine which part to remove. For example, each iteration can receive a navigation signal, and the criterion can be a navigation history criterion. More generally, the criterion can select an element that is least recently traversed, such as from a list of nodes defined by the part of node-link data in memory, with the nodes ordered within the list according to how recently each node has been traversed."* (Tenev, col. 2, line 28-38) A system that deletes nodes from memory inherently implies that when a deleted node is requested it would be determined that it needs to be downloaded. When a node is already in memory it would not need to be re-downloaded.

Given these teachings, a person of ordinary skill in the art would have readily recognized the

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desirability and advantages of modifying the system of Bell so as to determine whether a node is reusable and only download the data if it is not, such as taught by Tenev, in order to avoid downloading redundant data.

In referring to claim 5, Bell in view of Tenev shows,

- If the defined node and all other nodes in the scene are not reusable, the node identifier of the defined node is determined as a value which is for all nodes as subjects:
A system that determines reusable nodes and then downloads node data inherently implies downloading all non-reusable nodes

In referring to claim 14, although Bell shows substantial features of the claimed invention, including the system of claim 12 (see 102 rejection above), Bell does not show determining whether or not the defined node is reusable in the scene. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Bell as evidenced by Tenev.

In analogous art, Tenev discloses controlling which part of data defining a node-link structure is in memory. Tenev shows determining whether or not the defined node is reusable in the scene: *Tenev, col. 2, line 28-38* (see full quote above). A system that deletes nodes from memory inherently implies that when a deleted node is requested it would be determined that it needs to be downloaded. When a node is already in memory it would not need to be re-downloaded.

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Bell so as to determine whether a node is reusable and only download the data if it is not, such as taught by Tenev, in order to avoid downloading redundant data.

In referring to claim 15, Bell in view of Tenev shows,

- The node identifier generator sets the node identifier of the defined node to a value for all nodes as subjects, if the defined node and all other nodes in the scene are not reusable:

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A system that determines reusable nodes and then downloads node data inherently implies downloading all non-reusable nodes

Conclusion

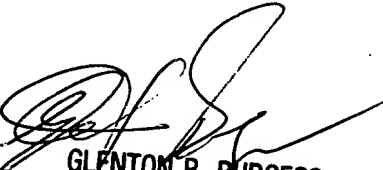
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott M. Klinger whose telephone number is (571) 272-3955. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott M. Klinger
Examiner
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